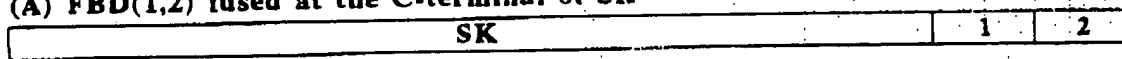
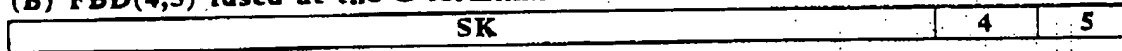


Fig. 1

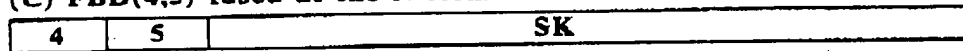
(A) FBD(1,2) fused at the C-terminal of SK



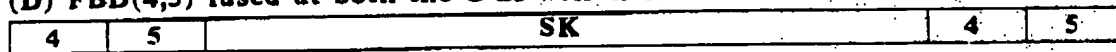
(B) FBD(4,5) fused at the C-terminal of SK



(C) FBD(4,5) fused at the N-terminal of SK

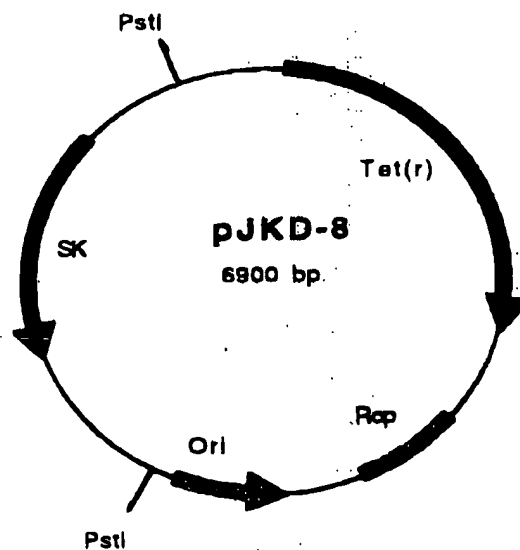


(D) FBD(4,5) fused at both the C as well as N-terminals of SK



T0220" 52244660

Fig. 2



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Fig. 3

1/1  
ATT GCT GGA CCT GAG TGG CTG CTA GAC CGT CCA TCT GTC AAC AAC AGC CAA TTA GTT GTT  
ile ala gly pro glu trp leu leu asp arg pro ser val asn asn ser gln leu val val  
61/21  
AGC GTT GCT GCT ACT GTT GAG GGC ACG AAT CAA GAC ATT AGT CTT AAA TTT TTT GAA ATC  
ser val ala gly thr val glu gly thr asn gln asp ile ser leu lys phe phe glu ile  
121/41  
GAT CTA ACA TCA CGA CCT GCT CAT GGA GGA AAG ACA GAG CAA GGC TTA AGT CCA AAA TCA  
asp leu thr ser arg pro ala his gly gly lys thr glu gln gly leu ser pro lys ser  
181/61  
AAA CCA TTT GCT ACT GAT ACT GGC GCG ATG TCA CAT AAA CTT GAG AAA GCT GAC TTA CTA  
lys pro phe ala thr asp ser gly ala met ser his lys leu glu lys ala asp leu leu  
241/81  
AAG GCT ATT CAA GAA CAA TTG ATC GCT AAC GTC CAC AGT AAC GAC GAC TAC TTT GAG GTC  
lys ala ile gln glu gln leu ile ala asn val his ser asn asp asp tyr phe glu val  
301/101  
ATT GAT TTT GCA AGC GAT GCA ACC ATT ACT GAT CGA AAC GGC AAG GTC TAC TTT GCT GAC  
ile asp phe ala ser asp ala thr ile thr asp arg asn gly lys val tyr phe ala asp  
361/121  
AAA GAT GGT TCG GTA ACC TTG CCG ACC CAA CCG GTC CAA GAA TTT TTG CTA AGC CGA CAT  
lys asp gly ser val thr leu pro thr gln pro val gln glu phe leu leu ser gly his  
421/141  
GTG CCG GTT AGA CCA TAT AAA GAA AAA CCA ATA CAA AAC CAA GCG AAA TCT GTT GAT GTG  
val arg val arg pro tyr lys glu lys pro ile gln asn gln ala lys ser val asp val  
481/161  
GAA TAT ACT GTA CAG TTT ACT CCC TTA AAC CCT GAT GAC GAT TTC AGA CCA GGT CTC AAA  
glu tyr thr val gln phe thr pro leu asn pro asp asp asp phe arg pro gly leu lys  
541/181  
GAT ACT AAG CTA TTG AAA ACA CTA GCT ATC GGT GAC ACC ATC ACA TCT CAA GAA TTA CTA  
asp thr lys leu leu lys thr leu ala ile gly asp thr ile thr ser gln glu leu leu  
601/201  
GCT CAA GCA CAA AGC ATT TTA AAC AAA AAC CAC CCA GGC TAT ACG ATT TAT GAA CGT GAC  
ala gln ala gln ser ile leu asn lys asn his pro gly tyr thr ile tyr glu arg asp  
661/221  
TCC TCA ATC GTC ACT CAT GAC AAT GAC ATT TTC CGT ACG ATT TTA CCA ATG GAT CAA GAG  
ser ser ile val thr his asp asn asp ile phe arg thr ile leu pro met asp gln glu  
721/241  
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phe thr tyr arg val lys asn arg glu gln ala tyr arg ile asn lys lys ser gly leu  
781/261  
AAT CAA GAA ATA AAC AAC ACT GAC CTC ATC TCT GAG AAA TAT TAC CTC CTT AAA AAA GGG  
asn glu glu ile asn asn thr asp leu ile ser glu lys tyr tyr val leu lys lys gly  
841/281  
GAA AAG CCG TAT GAT CCG TTT GAT CCG AGT CAC TTG AAA CTG TTC ACC ATC AAA TAC GTT  
glu lys pro tyr asp pro phe asp arg ser his leu lys leu phe thr ile lys tyr val  
901/301  
GAT GTC GAT ACC AAC GAA TTG CTA AAA AGT GAG CAG CTC TTA ACA GCT AGC GAA CGT AAC  
asp val asp thr asn glu leu leu lys ser glu gln leu leu thr ala ser glu arg asn  
961/321  
TTA GAC TTC AGA GAT TTA TAC GAT CCT CGT GAT AAG GCT AAA CTA CTC TAC AAC AAT CTC  
leu asp phe arg asp leu tyr asp pro arg asp lys ala lys leu leu tyr asn asn leu  
1021/341  
GAT GCT TTT GGT ATT ATG GAC TAT ACC TTA ACT GGA AAA GTA GAG GAT AAT CAC GAT GAC  
asp ala phe gly ile met asp tyr thr leu thr gly lys val glu asp asn his asp asp  
1081/361  
ACC AAC CGT ATC ATA ACC GTT TAT ATG GCG AAG CCA CCC GAA GGA GAG AAT GCT AGC TAT  
thr asn arg ile ile thr val tyr met gly lys arg pro glu gly glu asn ala ser tyr  
1141/381  
CAT TTA GCC TAT GAT AAA GAT CGT TAT ACC GAA GAA GAA CCA GAA GTT TAC ACC TAC CTG  
his leu ala tyr asp lys asp arg tyr thr glu glu glu arg glu val tyr ser tyr leu  
1201/401  
CCT TAT ACA GCG ACA CCT ATA CCT GAT AAC CCT AAC CAC AAA TAA  
arg tyr thr gly thr pro ile pro asp asn pro asn asp lys OCH

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**Fig. 4**

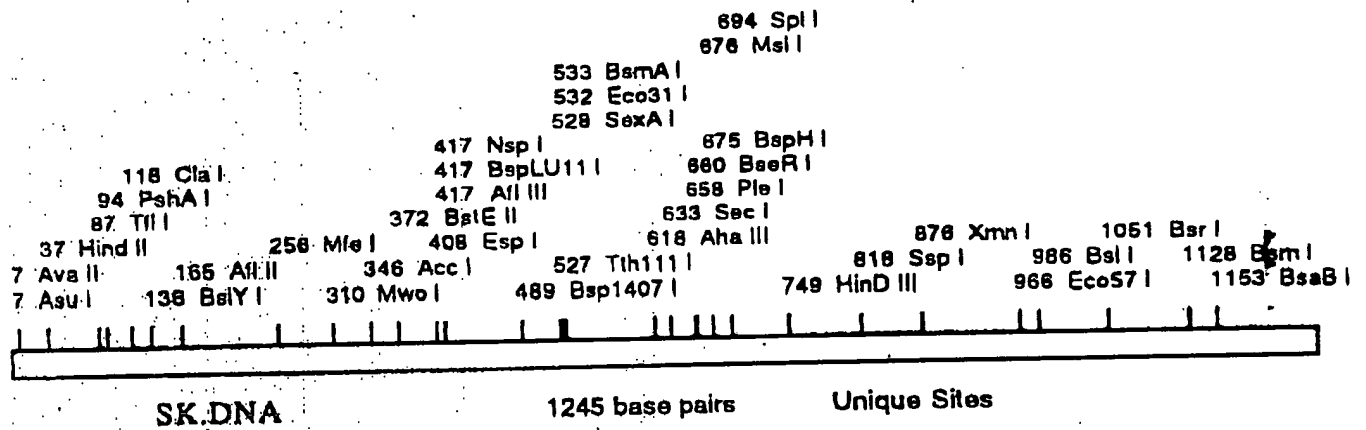
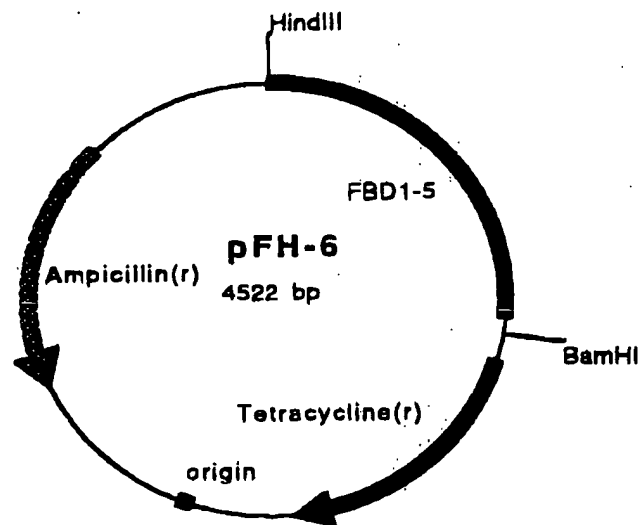
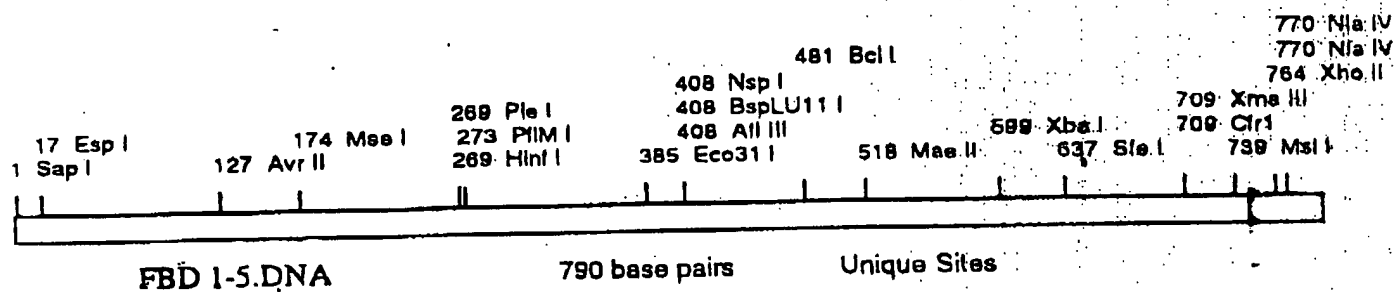


Fig. 5

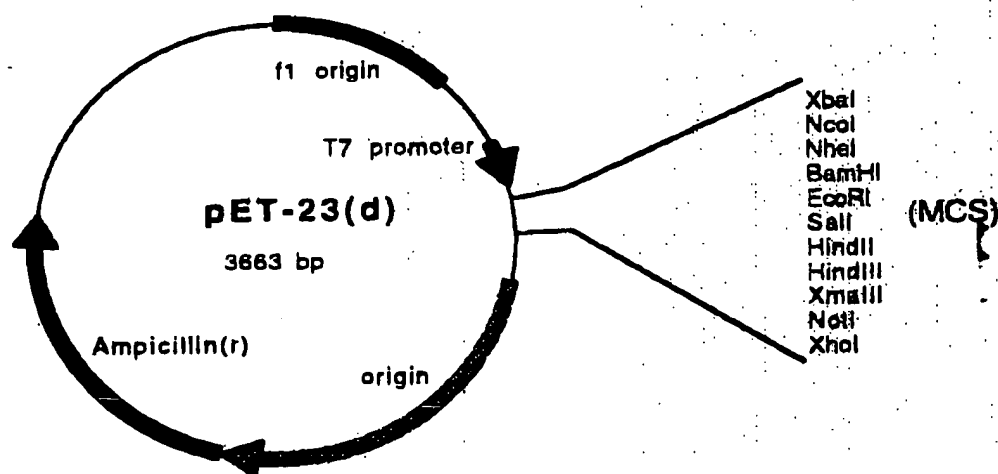
**Fig. 6**

|         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1/1     | CAG | GCT | CAG | CAA | ATG | GTT | CAG | CCC | CAG | TCC | CCG     | GTC | GCT | GTC | ACT | CAA | AGC | AAG | CCC | GGT |
| gln     | ala | gln | gln | met | val | gln | pro | gln | ser |     | pro     | val | ala | val | ser | gln | ser | lys | pro | gly |
| 61/21   |     |     |     |     |     |     |     |     |     |     | 91/31   |     |     |     |     |     |     |     |     |     |
| TGT     | TAT | GAC | AAT | GGA | AAA | CAC | TAT | CAG | ATA |     | AAT     | CAA | CAG | TGC | GAG | CGG | ACC | TAC | CTA | GGT |
| cys     | tyr | asp | asn | gly | lys | his | tyr | gln | ile |     | asn     | gln | gln | trp | glu | arg | thr | tyr | leu | gly |
| 121/41  |     |     |     |     |     |     |     |     |     |     | 151/51  |     |     |     |     |     |     |     |     |     |
| AAT     | CTC | TTG | GTT | TGT | ACT | TGT | TAT | GGA | GGA |     | AGC     | CGA | GCT | TTT | AAC | TGC | GAA | AGT | AAA | CCT |
| asn     | val | leu | val | cys | thr | cys | tyr | gly | gly |     | ser     | arg | gly | phe | asn | cys | glu | ser | lys | pro |
| 181/61  |     |     |     |     |     |     |     |     |     |     | 211/71  |     |     |     |     |     |     |     |     |     |
| GAA     | GCT | GAA | GAG | ACT | TCC | TTT | GAC | AAG | TAC |     | ACT     | GGC | AAC | ACT | TAC | CGA | GTC | GGT | GAC | ACT |
| glu     | ala | glu | glu | chr | cys | phe | asp | lys | tyr |     | thr     | gly | asn | thr | tyr | arg | val | gly | asp | thr |
| 241/81  |     |     |     |     |     |     |     |     |     |     | 271/91  |     |     |     |     |     |     |     |     |     |
| TAT     | GAG | CGT | CCT | AAA | GAC | TCC | ATG | ATC | TGG |     | GAC     | TGT | ACC | TCC | ATC | GGG | GCT | GGG | CGA | GGG |
| tyr     | glu | arg | pro | lys | asp | ser | met | ile | trp |     | asp     | cys | thr | cys | ile | gly | ala | gly | arg | gly |
| 301/101 |     |     |     |     |     |     |     |     |     |     | 331/111 |     |     |     |     |     |     |     |     |     |
| AGA     | ATA | AGC | TGT | ACC | ATC | GCA | AAC | CGC | TGC |     | CAT     | GAA | GGG | GGT | CAG | TCC | TAC | AAG | ATT | GGT |
| arg     | ile | ser | cys | thr | ile | ala | asn | arg | cys |     | his     | glu | gly | gly | gln | ser | tyr | lys | ile | gly |
| 361/121 |     |     |     |     |     |     |     |     |     |     | 391/131 |     |     |     |     |     |     |     |     |     |
| GAC     | ACC | TGG | AGG | AGA | CCA | CAT | GAG | ACT | GGT |     | GGT     | TAC | ATG | TTA | CAG | TGT | GTC | TGT | CTT | GGT |
| asp     | thr | trp | arg | arg | pro | his | glu | thr | gly |     | gly     | tyr | met | leu | glu | cys | val | cys | leu | gly |
| 421/141 |     |     |     |     |     |     |     |     |     |     | 451/151 |     |     |     |     |     |     |     |     |     |
| AAT     | GGA | AAA | GGA | GAA | TGG | ACC | TGC | AAG | CCC |     | ATA     | GCT | GAG | AAG | TGT | TTT | GAT | CAT | GCT | GCT |
| asn     | gly | lys | gly | glu | trp | thr | cys | lys | pro |     | ile     | ala | glu | lys | cys | phe | asp | his | ala | ala |
| 481/161 |     |     |     |     |     |     |     |     |     |     | 511/171 |     |     |     |     |     |     |     |     |     |
| GGC     | ACT | TCC | TAT | GTC | GTC | GGA | GAA | ACG | TGG |     | GAG     | AAG | CCC | TAC | CAA | GGC | TGC | ATC | ATC | GTA |
| gly     | thr | ser | tyr | val | val | gly | glu | thr | trp |     | glu     | lys | pro | tyr | gln | gly | trp | met | met | val |
| 541/181 |     |     |     |     |     |     |     |     |     |     | 571/191 |     |     |     |     |     |     |     |     |     |
| GAT     | TGT | ACT | TGC | CTG | GGA | GAA | GGC | AGC | GGA |     | CGC     | ATC | ACT | TGC | ACT | TCT | AGA | AAT | AGA | TCC |
| asp     | cys | thr | cys | leu | gly | glu | gly | ser | gly |     | arg     | ile | thr | cys | thr | ser | arg | asn | arg | cys |
| 601/201 |     |     |     |     |     |     |     |     |     |     | 631/211 |     |     |     |     |     |     |     |     |     |
| AAC     | GAT | CAG | GAC | ACA | AGG | ACA | TCC | TAT | AGA |     | ATT     | GGA | GAC | ACC | TGG | AGC | AAG | AAG | GAT | AAT |
| asn     | asp | gln | asp | thr | arg | thr | ser | tyr | arg |     | ile     | gly | asp | thr | trp | ser | lys | lys | asp | asn |
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Fig. 7



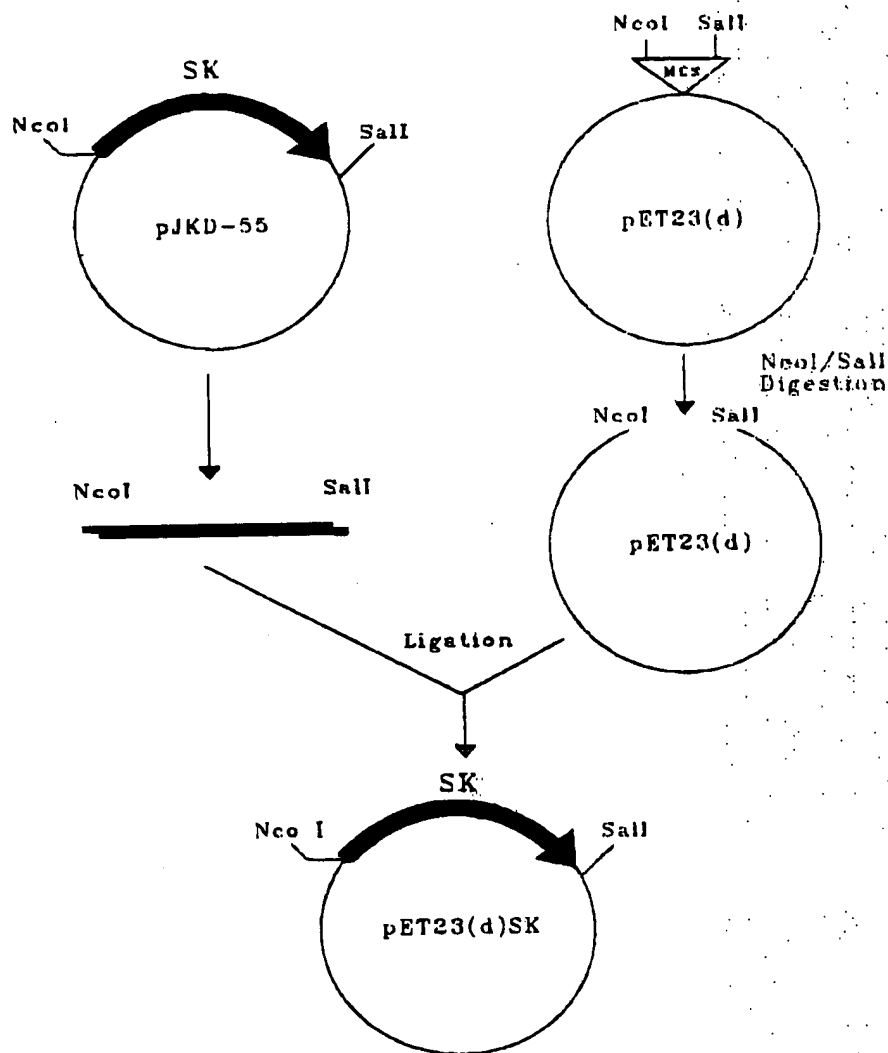
102250 52204000

Fig. 8

T02280: 52040600



**Fig. 9**



104430-5204653

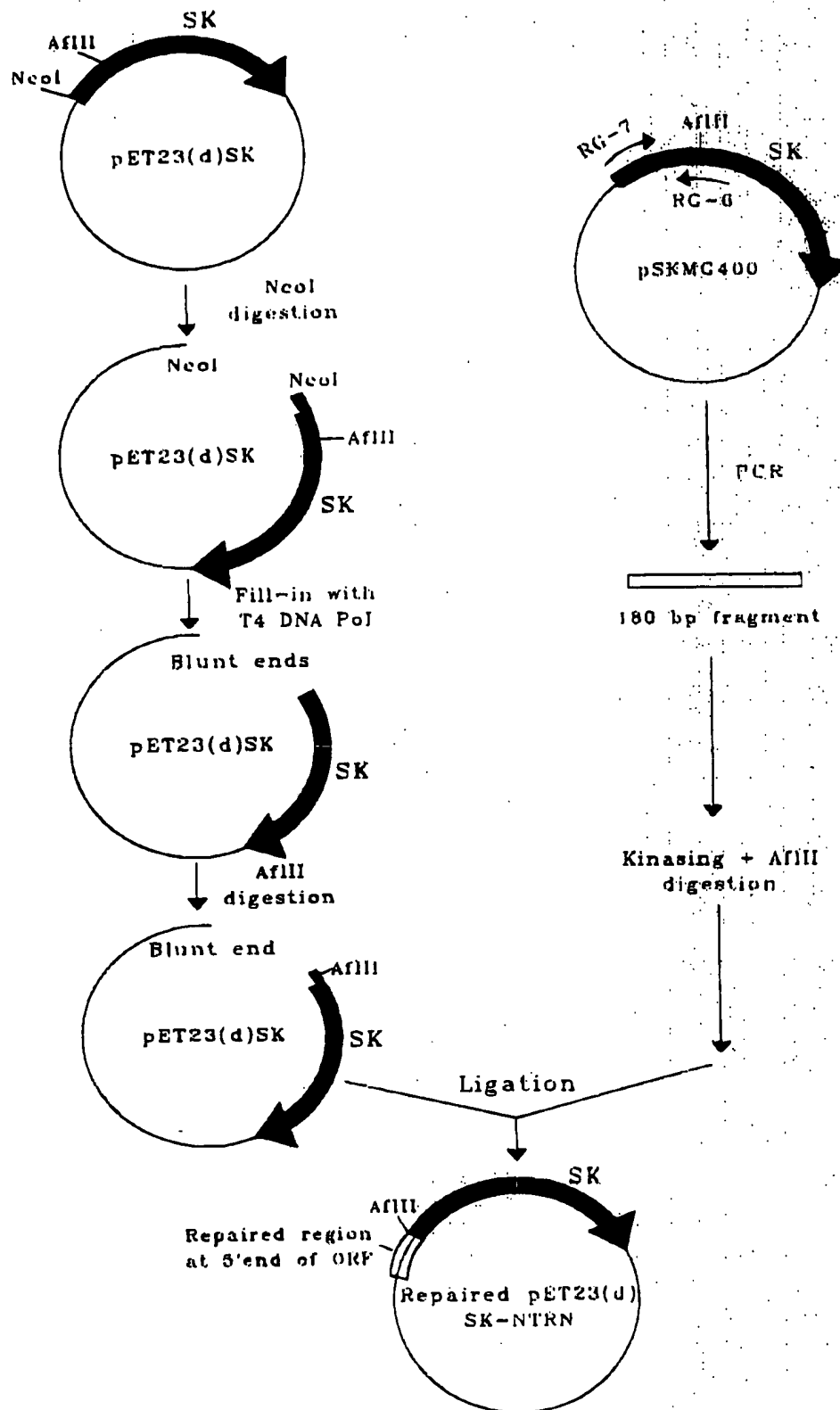
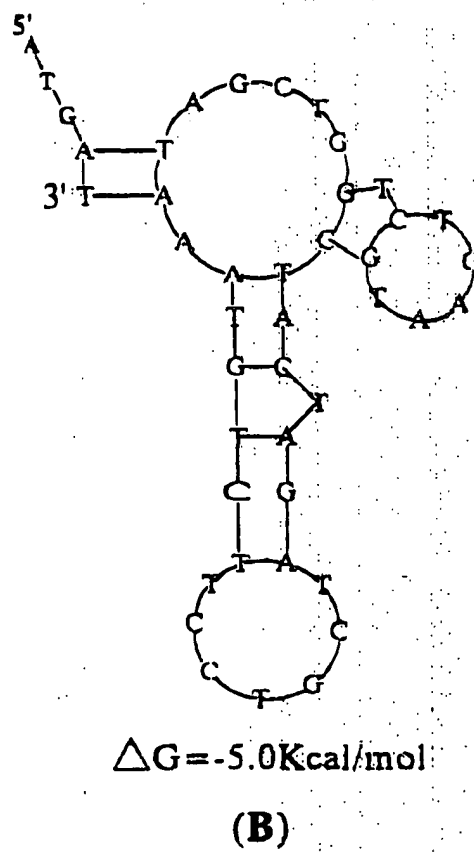
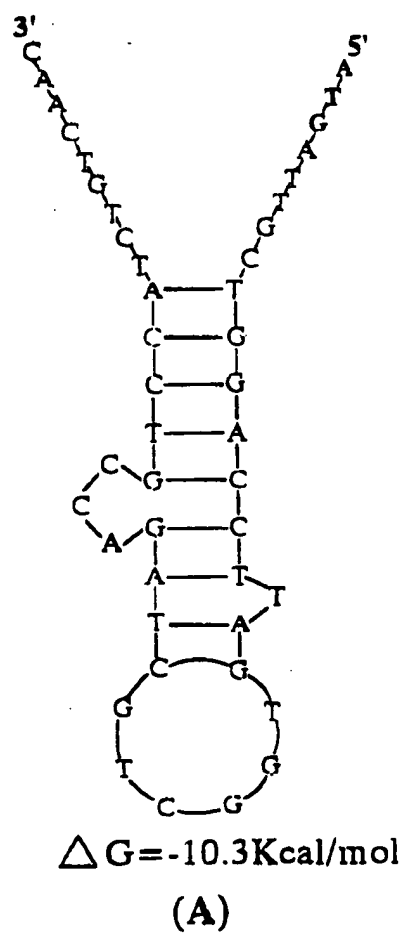
**Fig. 10**

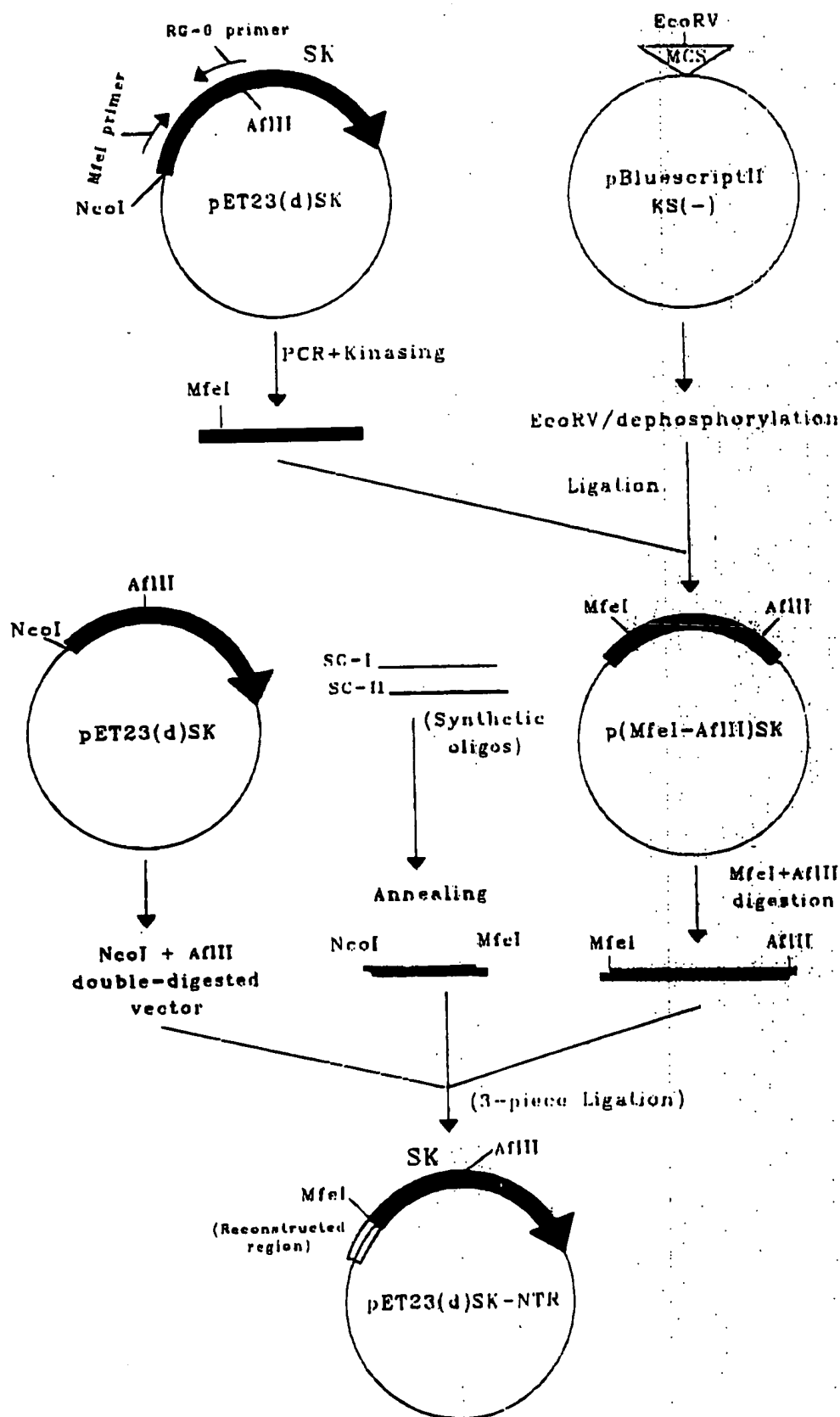
Fig. 11

|      | 10          | 20          | 30         | 40         | 50         |
|------|-------------|-------------|------------|------------|------------|
| 51   | GCACCCGTGG  | CCAGGACCCA  | ACGCTGCCCG | AGATCTCGAT | CCCGCGAAAT |
| 101  | TAATACGACT  | CACTATAGGG  | AGACCACAAC | GGTTTCCCTC | TAGAAATAAT |
| 151  | TTTGTTTAAC  | TTTAAGAAGG  | AGATATACCA | TGATTGCTGG | ACCTGAGTGG |
| 201  | CTGCTAGACC  | GTCCATCTGT  | CAACAACAGC | CAATTGGTTG | TTAGCGTTGC |
| 251  | TGGTACTGTT  | GAGGGGACGA  | ATCAAGACAT | TAGTCTTAAA | TTTTTTGAAA |
| 301  | TCGATCTAAC  | ATCACGACCT  | GCTCATGGAG | GAAAGACAGA | GCAAGGCTTA |
| 351  | AGTCCAAAAT  | CAAAACCAAT  | TGCTACTGAT | AGTGGCGCGA | TGTCACATAA |
| 401  | ACTTGAGAAA  | GCTGACTTAC  | TAAAGGCTAT | TCAAGAACAA | TTGATCGCTA |
| 451  | ACGTCCACAG  | TAACGACGAC  | TACTTTGAGG | TCATTGATTT | TGCAAGCGAT |
| 501  | GCAACCATTA  | CTGATCGAAA  | CGGCAAGGTC | TACTTTGCTG | ACAAAQATGG |
| 551  | TTCCGGTAACC | TTGCCGACCC  | AACCTGTCCA | AGAATTTTIG | CTAAGCGGAC |
| 601  | ATGTGCGCGT  | TAGACCATAT  | AAAGAAAAAC | CAATACAAAA | CCAAGCGAAA |
| 651  | TCTGTTGATG  | TGGAATATAC  | TGTACAGTTT | ACTCCCTTAA | ACCCTGATGA |
| 701  | CGATTTCAGA  | CCAGGTCTCA  | AAGATACTAA | GCTATTGAAA | ACACTAGCTA |
| 751  | TCGGTGACAC  | CATCACATCT  | CAAGAATTAC | TAGCTCAAGC | ACAAAGCAAT |
| 801  | TTAAACAAAA  | ACCACCCAGG  | CTATACGATT | TATGAACGTG | ACTCCTCAAT |
| 851  | CGTCACTCAT  | GACAA TGACA | TTTTCCGTAC | GATTTTACCA | ATGGATCAAG |
| 901  | AGTTTACTTA  | CCGTGTTAAA  | AATCGGGAAC | AAGCTTATAG | GATCAATAAA |
| 951  | AAATCTGGTC  | TGAATGAAGA  | AATAAACAAC | ACTGACCTGA | TCTCTGAGAA |
| 1001 | ATATTACGTC  | CTTAAAAAAG  | GGGAAAAGCC | GTATGATCCC | TTTGATCGCA |
| 1051 | GTCAC TTGAA | ACTGTTACC   | ATCAAATACG | TTGATGTCGA | TACCAACGAA |
| 1101 | TTGCTAAAAA  | GTGAGCAGCT  | CTTAACAGCT | AGCGAACGTA | ACTTAGACTT |
| 1151 | CAGAGATTTA  | TACGATCCTC  | GTGATAAGGC | TAAACTACTC | TACAACAATC |
| 1201 | TCGATGCTTT  | TGGTATTATG  | GACTATACCT | TAACTGGAAA | AGTAGAGGAT |
| 1251 | AATCACGATG  | ACACCAACCG  | TATCATAACC | GTTTATATGG | GCAAGCGACC |
| 1301 | CGAAGGAGAG  | AATGCTAGCT  | ATCATTTAGC | CTATGATAAA | GATCGTTATA |
| 1351 | CCGAAGAAGA  | ACGAGAAGTT  | TACAGCTACC | TGCGTTATAC | AGGGACACCT |
|      | ATACCTGATA  | ACCCTAACGA  | CAAATAA    |            |            |

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Fig. 12

**Fig. 13**



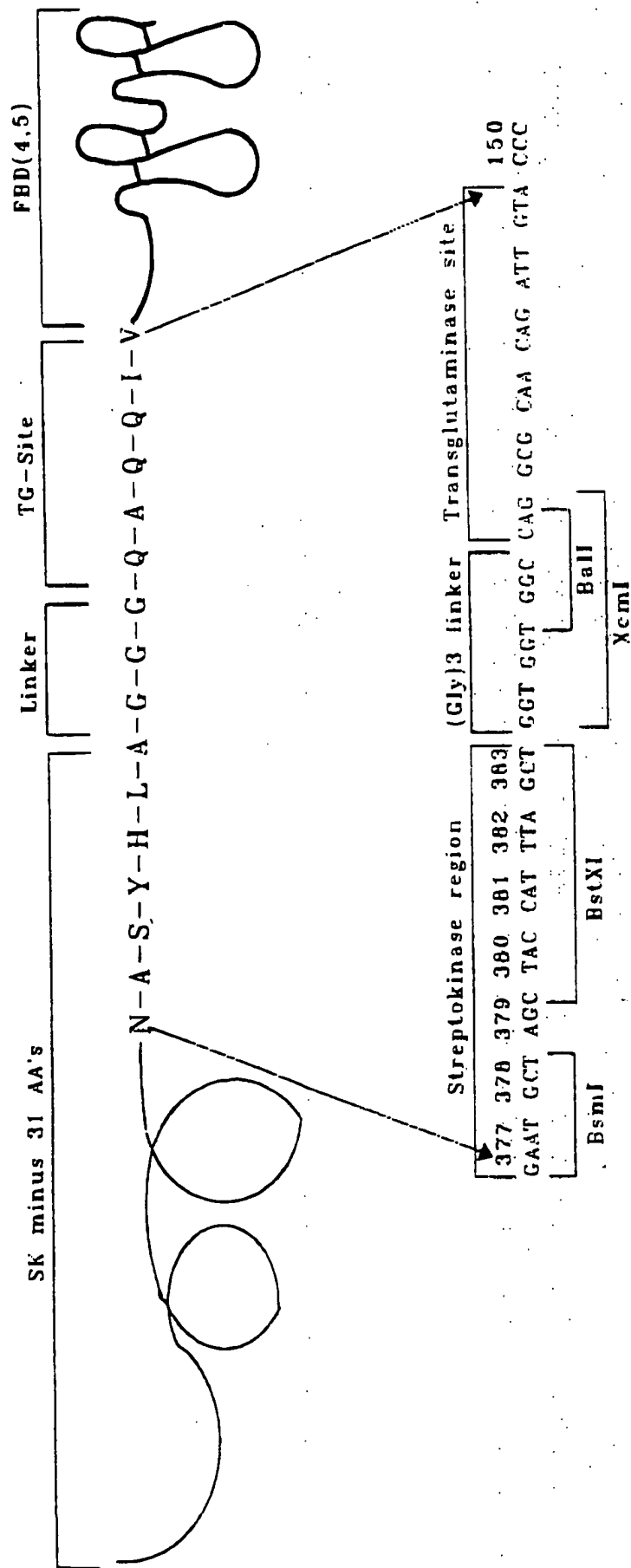
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 300  
 200  
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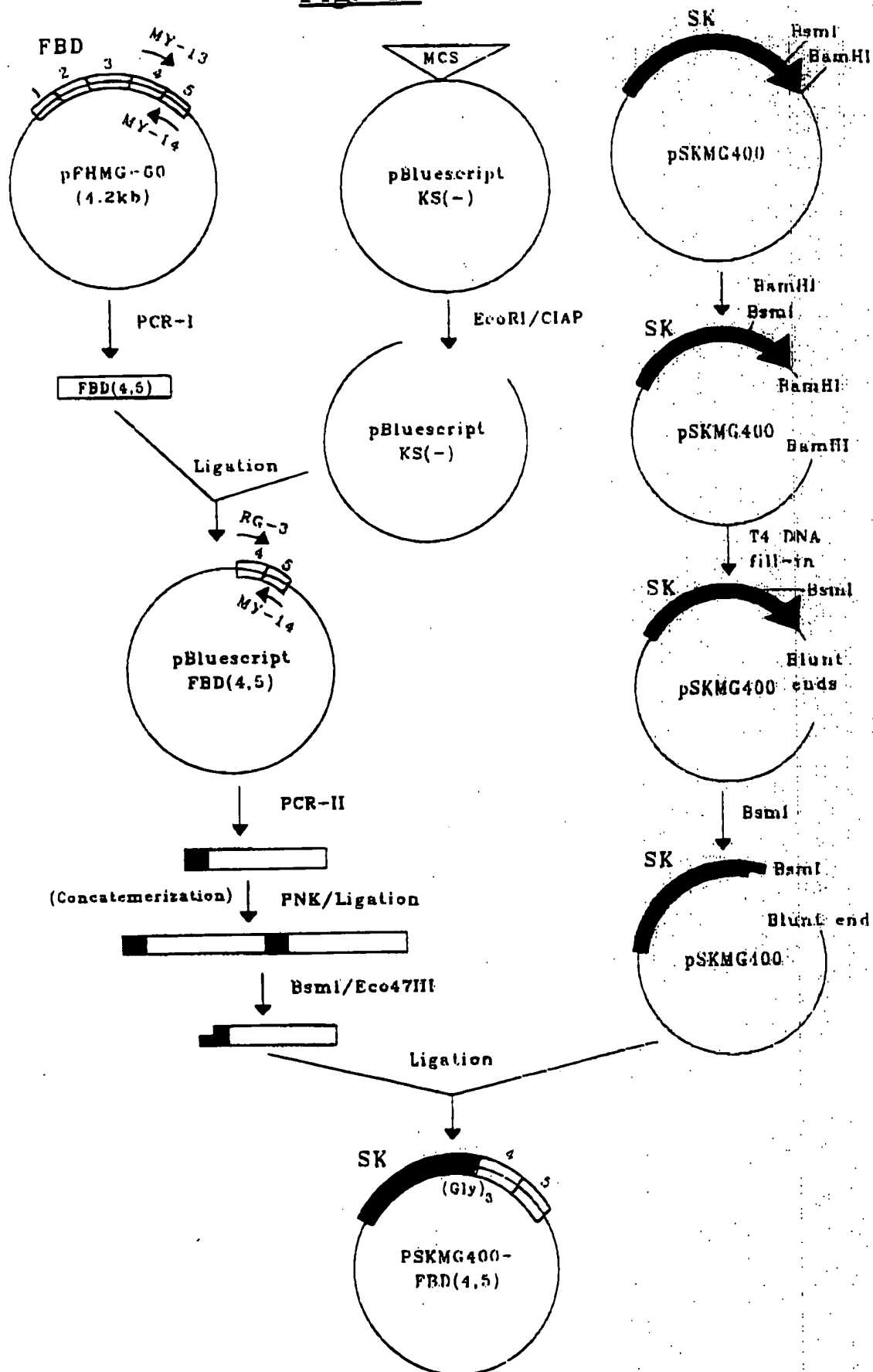
|      | 10          | 20         | 30          | 40          | 50         |
|------|-------------|------------|-------------|-------------|------------|
|      | TAATACGACT  | CACTATAGGG | AGACCACAAC  | GGTTTCCCTC  | TAGAAATAAT |
| 51   | TTTGTTTAAC  | TTTAAGAAGG | AGATATACCA  | TGATAGCTGG  | TCCTGAATGG |
| 101  | CTACTAGATC  | GTCCTTCTGT | AAATAACAGC  | CAATTGGTTG  | TTAGCGTTGC |
| 151  | TGGTACTGTT  | GAGGGGACGA | ATCAAGACAT  | TAGTCTTAAA  | TTTTTTGAAA |
| 201  | TCGATCTAAC  | ATCACGACCT | GCTCATGGAG  | GAAAGACAGA  | GCAAGGCTTA |
| 251  | AGTCCAAAAT  | CAAAACCATT | TGCTACTGAT  | AGTGGCGCGA  | TGTCACATAA |
| 301  | ACTTGAGAAA  | GCTGACTTAC | TAAAGGCTAT  | TCAAGAACAA  | TTGATCGCTA |
| 351  | ACGTCCACAG  | TAACGACGAC | TACTTTGAGG  | TCATTGATTT  | TGCAAGCGAT |
| 401  | GCAACCATT A | CTGATCGAAA | CGGCAAGGTC  | TACTTTGCTG  | ACAAAGATGG |
| 451  | TTCGGTAACC  | TTGCCGACCC | AACCTGTCCA  | AGAATTTTTG  | CTAAGCGGAC |
| 501  | ATGTGCGCGT  | TAGACCATAT | AAAGAAAAAC  | CAATACAAAA  | CCAAGCGGAA |
| 551  | TCTGTTGATG  | TGGAATATAC | TGTACAGTTT  | ACTCCCTTAA  | ACCTGATGA  |
| 601  | CGATTT CAGA | CCAGGTCTCA | AAGATACTAA  | GCTATTGAAA  | ACACTAGCTA |
| 651  | TCGGTGACAC  | CATCACATCT | CAAGAATTAC  | TAGCTCAAGC  | ACAAAGCATT |
| 701  | TTAAACAAAA  | ACCACCCAGG | CTATACGATT  | TATGAACGTG  | ACTCCTCAAT |
| 751  | CGTCACTCAT  | GACAATGACA | TTT TCCGTAC | GATTTTACCA  | ATGGATCAAG |
| 801  | AGTTTACTTA  | CCGTGTTAAA | AATCGGGAAC  | AAGCTTATAG  | GATCAATAAA |
| 851  | AAATCTGGTC  | TGAATGAAGA | AATAACAAC   | ACTGACCTGA  | TCTCTGAGAA |
| 901  | ATATTACGTC  | CTTAAAAAAG | GGGAAAAGCC  | GTATGATCCC  | TTTGATCGCA |
| 951  | GTCAC TTGAA | ACTGTTCAAC | ATCAAATACG  | TTGATGT CGA | TACCAACGAA |
| 1001 | TTGCTAAAAA  | GTGAGCAGCT | CTTAACAGCT  | AGCGAACGTA  | ACTTAGACTT |
| 1051 | CAGAGATTTA  | TACGATCCTC | GTGATAAGGC  | TAAACTACTC  | TACAACAATC |
| 1101 | TCGATGCTTT  | TGGTATTATG | GACTATACCT  | TAACTGGAAG  | AGTAGAGGAT |
| 1151 | AATCACGATG  | ACACCAACCG | TATCATAACC  | GTTTATATGG  | GCAAGCGACC |
| 1201 | CGAAGGAGAG  | AATGCTAGCT | ATCATTTAGC  | CTATGATAAA  | GATCGTTATA |
| 1251 | CCGAAGAAGA  | ACGAGAAGTT | TACAGCTACC  | TGCGTTATAC  | AGGGACACCT |
| 1301 | ATACCTGATA  | ACCCTAACGA | CAAATAA     |             |            |

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Fig. 15



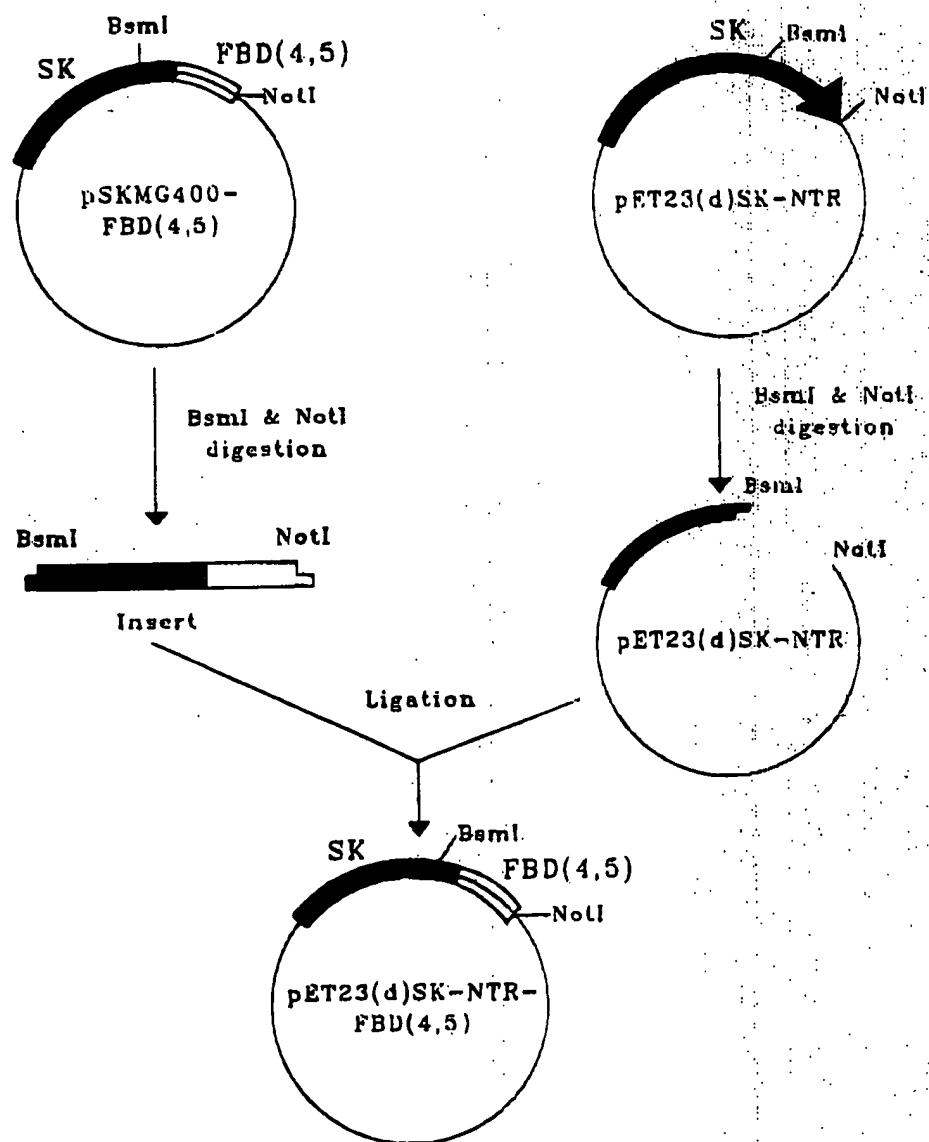
**Fig. 16**



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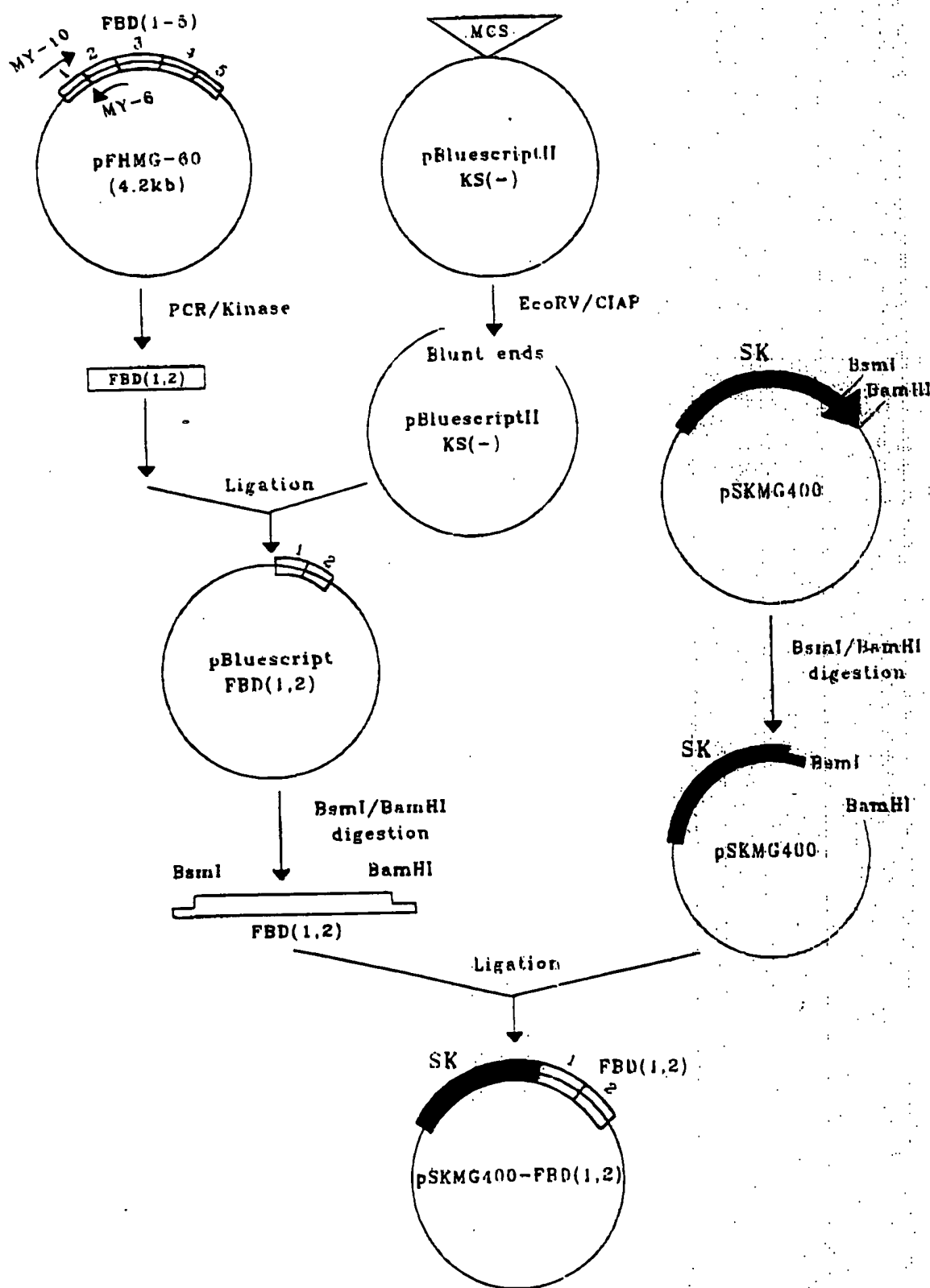
Fig. 17a



202305201650

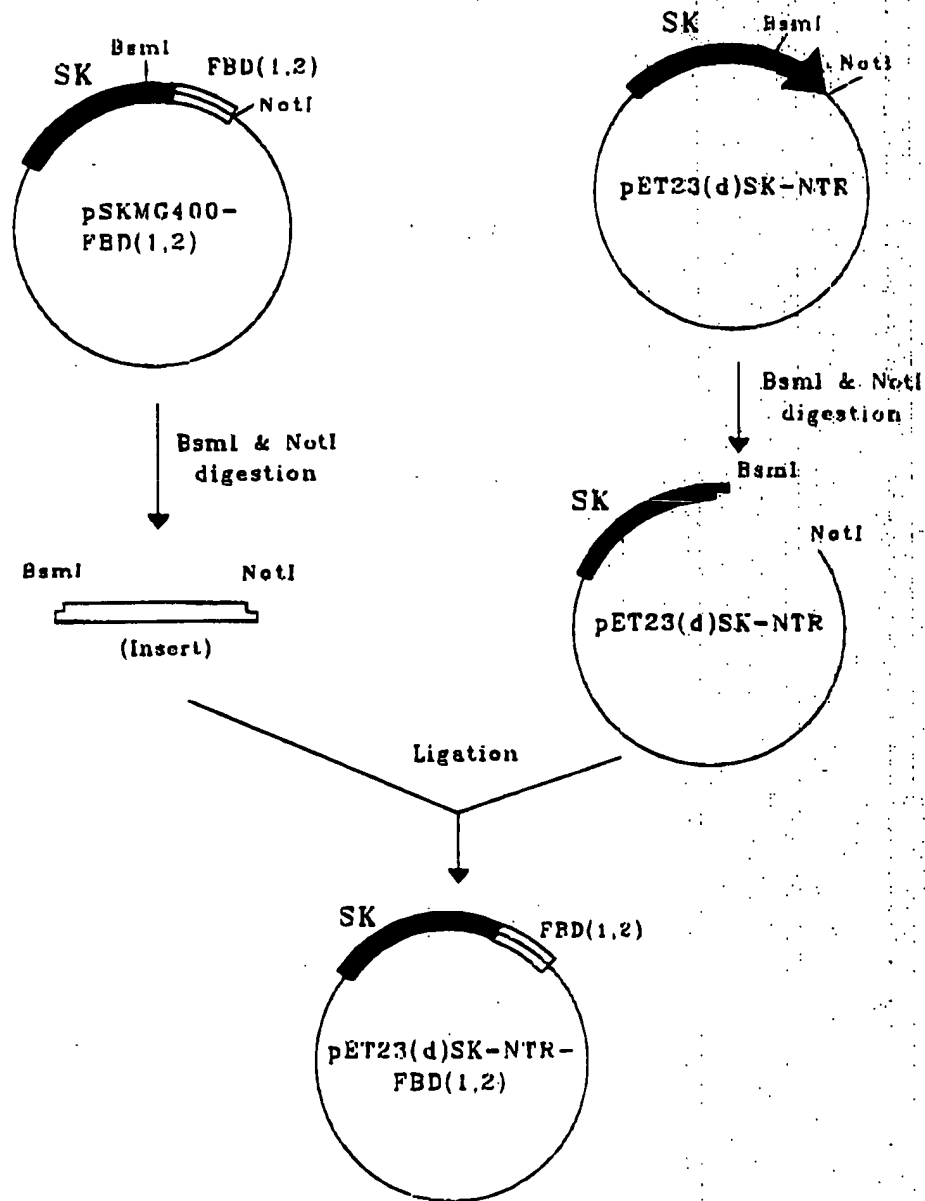


**Fig. 18**



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Fig. 19a



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Fig. 19b

|      | 10         | 20         | 30          | 40         | 50         |
|------|------------|------------|-------------|------------|------------|
|      | GCAACCCCGC | CAGCCTAGCC | GGGTCCTCAA  | CGACAGGAGC | ACGATCATGC |
| 51   | GCACCCGTGG | CCAGGACCCA | ACGCTGCCCG  | AGATCTCGAT | CCCGCGAAAT |
| 101  | TAATACGACT | CACTATAGGG | AGACCACAAC  | GTTTCCCTC  | TAGAAATAAT |
| 151  | TTGTTTAAC  | TTTAAGAAGG | AGATATACCA  | TGATTGCTGG | ACCTGAGTGG |
| 201  | CTGCTAGACC | GTCCATCTGT | CAACAACAGC  | CAATTGGTTG | TTAGCGTTGC |
| 251  | TGGTACTGTT | GAGGGGACGA | ATCAAGACAT  | TAGTCTTAAA | TTTTTTGAAA |
| 301  | TCGATCTAAC | ATCACGACCT | GCTCATGGAG  | GAAAGACAGA | GCAAGGCTTA |
| 351  | AGTCCAAAAT | CAAAACCATT | TGCTACTGAT  | AGTGGCGCGA | TGTCACATAA |
| 401  | ACTTGAGAAA | GCTGACTTAC | TAAAGGCTAT  | TCAAGAACAA | TTGATCGCTA |
| 451  | ACGTCCACAG | TAACGACGAC | TACTTTGAGG  | TCATTGATT  | TGCAAGCGAT |
| 501  | GCAACCATT  | CTGATCGAAA | CGGCAAGGTC  | TACTTTGCTG | ACAAAGATGG |
| 551  | TTCGGTAACC | TTGCCGACCC | AACCTGTCCA  | AGAATTTTG  | CTAAGCGGAC |
| 601  | ATGTGCGCGT | TAGACCATAT | AAAGAAAAAC  | CAATACAAAA | CCAAGCGAAA |
| 651  | TCTGTTGATG | TGGAATATAC | TGTACAGTTT  | ACTCCCTTAA | AECCTGATGA |
| 701  | CGATTTTACA | CCAGGTCTCA | AAGATACTAA  | GCTATTGAAA | ACACTAGCTA |
| 751  | TCGGTGACAC | CATCACATCT | CAAGAATTAC  | TAGCTCAAGC | ACAAAGCATT |
| 801  | TTAAACAAAA | ACCACCCAGG | CTATACGATT  | TATGAACGTG | ACTCCTCAAT |
| 851  | CGTCACTCAT | GACAATGACA | TTTTCCGTAC  | GATTTTACCA | ATGGATCAAG |
| 901  | AGTTTACTTA | CCGTGTTAAA | AATCGGGAAC  | AAGCTTATAG | GATCAATAAA |
| 951  | AAATCTGGTC | TGAATGAAGA | AATAAACAAC  | ACTGACCTGA | TCTCTGAGAA |
| 1001 | ATATTACGTC | CTTAAAAAAG | GGGAAAAGCC  | GTATGATCCC | TTTGATCGCA |
| 1051 | GTCACCTGAA | ACTGTTTACC | ATCAAATACG  | TTGATGTCGA | TACCAACGAA |
| 1101 | TTGCTAAAAA | GTGAGCAGCT | CTTAACAGCT  | AGCGAACGTA | ACTTAGACTT |
| 1151 | CAGAGATTTA | TACGATCCTC | GTGATAAGGC  | TAACTACTC  | TACAACAATC |
| 1201 | TCGATGCTTT | TGGTATTATG | GA CTATACCT | TAACTGGAAA | AGTAGAGGAT |
| 1251 | AATCACGATG | ACACCAACCG | TATCATAACC  | GTTTATATGG | GCAAGCGACC |
| 1301 | CGAAGGAGAG | AATGCTAGCT | ATCATTTAGC  | CGGTGGTGGT | CAGGCGCAGC |
| 1351 | AAATGGTTCA | GCCCCAGTCC | CCGGTGGCTG  | TCAGTCAAAG | CAAGCCCCGT |
| 1401 | TGTTATGACA | ATGGAAAACA | CTATCAGATA  | AATCAACAGT | GGGAGCGGAC |
| 1451 | CTACCTAGGT | AATGTGTTGG | TTTGTACTTG  | TTATGGAGGA | AGCCGAGGTT |
| 1501 | TTAACTGCGA | AAGTAAACCT | GAAGCTGAAG  | AGACTTGCTT | TGACAAGTAC |
| 1551 | ACTGGGAACA | CTTACCGAGT | GGGTGACACT  | TATGAGCGTC | CTAAAGACTC |
| 1601 | CATGATCTGG | GACTGTACCT | GCATCGGGGC  | TGGGCGAGGG | AGAATAAGCT |
| 1651 | GTACCATCTA | A          |             |            |            |

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**Fig. 20**

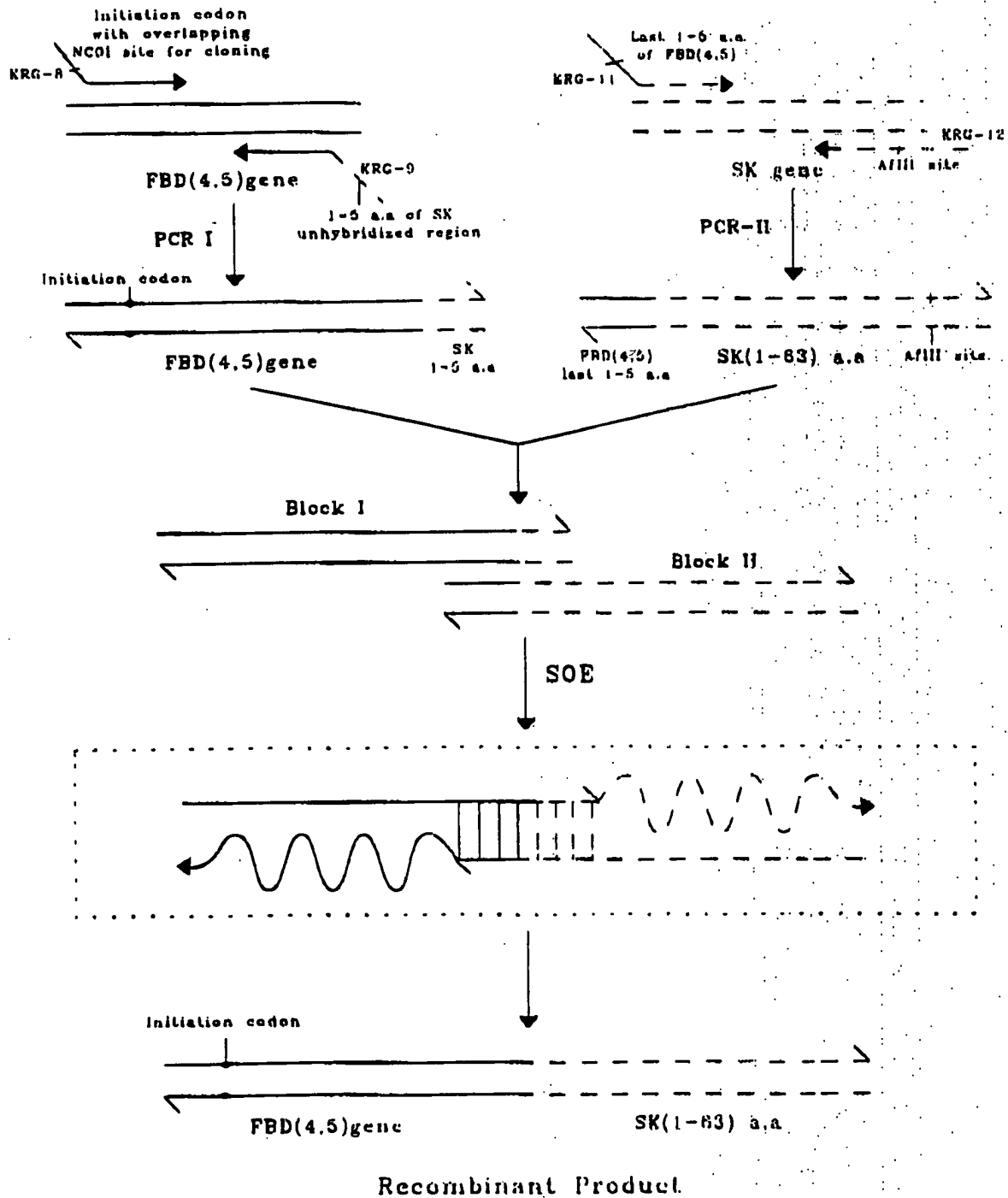
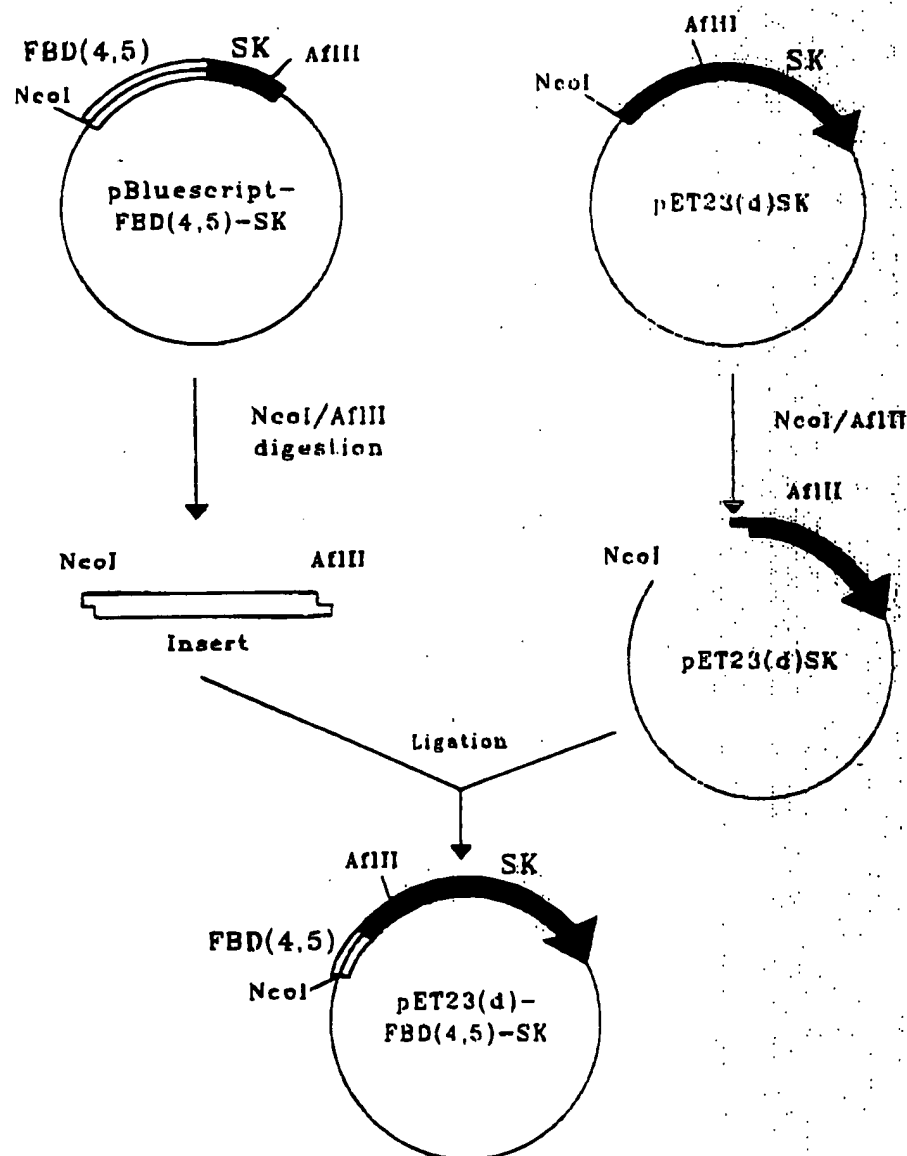


Fig. 21a

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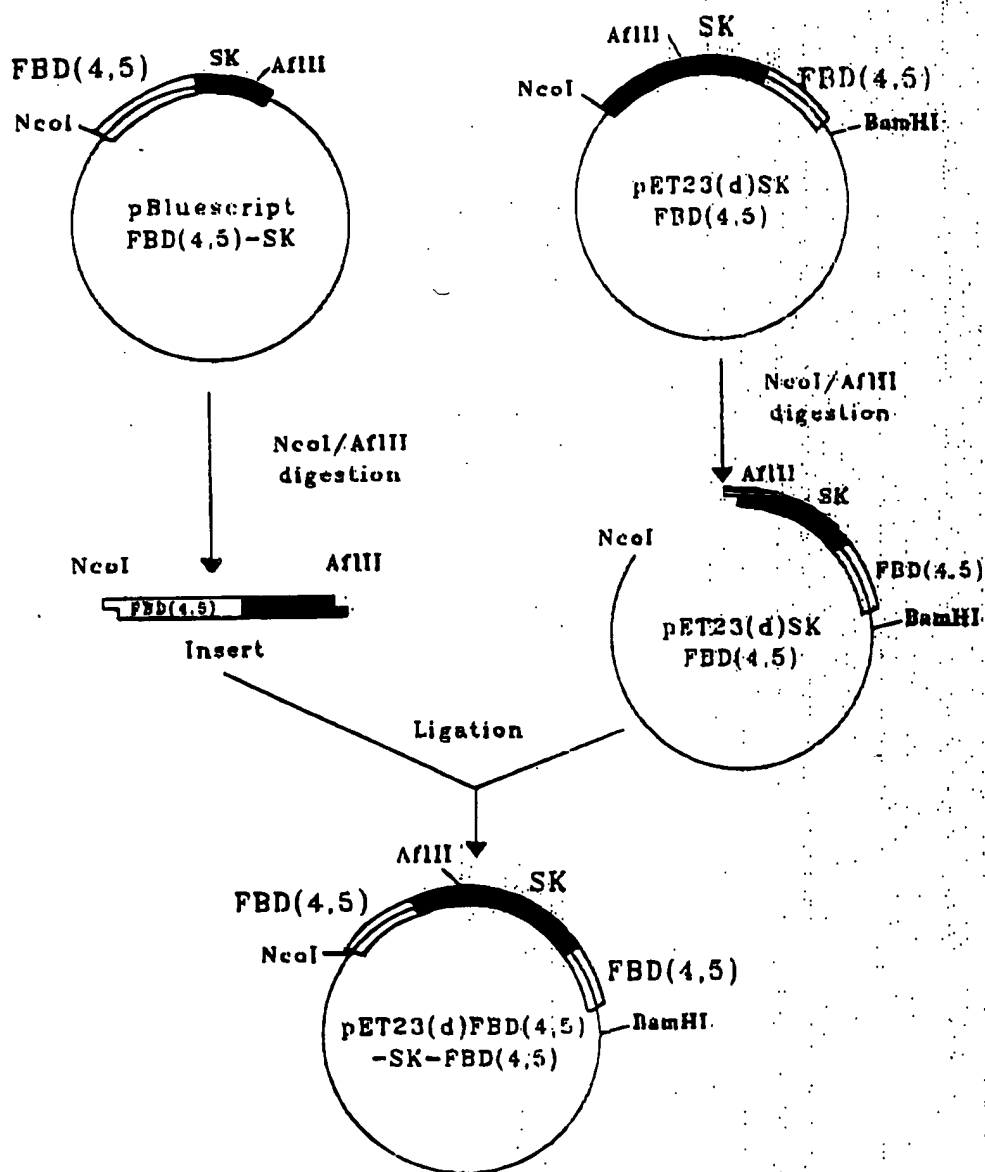
Fig. 21b

|      | 10         | 20         | 30         | 40          | 50          |
|------|------------|------------|------------|-------------|-------------|
| 1    | TCGCTTCACG | TTCGCTCGCG | TATCGGTGAT | TCATTCTGCT  | AACCAGTAAG  |
| 51   | GCAACCCCGC | CAGCCTAGCC | GGGTCCTCAA | CGACAGGAGC  | ACGATCATGC  |
| 101  | GCACCCGTGG | CCAGGACCCA | ACGCTGCCCG | AGATCTCGAT  | CCCGCGAAAT  |
| 151  | TAATACGACT | CACTATAGGG | AGACCACAAC | GGTTTCCCTC  | TAGAAATAAT  |
| 201  | TTTGTTTAAC | TTTAAGAAGG | AGATATACCA | TGGTGCAAGC  | ACAACAGATT  |
| 251  | GTACCCATAG | CTGAGAAGTG | TTTTGATCAI | GCTGCTGGGA  | CTTCCTATGT  |
| 301  | GGTCGGAGAA | ACGTGGGAGA | AGGCAGCGGA | CGCATCACTT  | GCATTCTETAG |
| 351  | AAATAGATGC | AACGATCAGG | ACACAAGGAC | ATCCTATAGA  | ATTGGAGACA  |
| 401  | CCTGGAGCAA | GAAGGATAAT | CGAGGAAACC | TGCTCCAGTG  | CATCTGCACA  |
| 451  | GGCAACGGCC | GAGGAGAGTG | GAAGTGTGAG | AGGCACACCT  | CTGTGCAGAC  |
| 501  | CACATCGAGC | GGATCTGGCC | CCTTCACCGA | TGTTTCGTATT | GCTGGACCTG  |
| 551  | AGTGGCTGCT | AGACCGTCCA | TCTGTCAACA | ACAGCCAATT  | GGTTGTTAGC  |
| 601  | GTTGCTGGTA | CTGTTGAGGG | GACGAATCAA | GACATTAGTC  | TTAAATTTTT  |
| 651  | TGAAATCGAT | CTAACATCAC | GACCTGCTCA | TGGAGGAAAG  | ACAGAGCAAG  |
| 701  | GCTTAAGTCC | AAAATCAAAA | CCATTTGCTA | CTGATAGTGG  | CGCGATGTCA  |
| 751  | CATAAACTTG | AGAAAGCTGA | CTTACTAAAG | GCTATTCAAG  | AACAATTGAT  |
| 801  | CGCTAACGTC | CACAGTAACG | ACGACTACTT | TGAGGTCAAT  | GATTTTGCAA  |
| 851  | GCGATGCAAC | CATTACTGAT | CGAAACGGCA | AGGTCTACTT  | TGCTGACAAA  |
| 901  | GATGGTTCGG | TAACCTTGCC | GACCCAACCT | GTCCAAGAAT  | TTTTGCTAAG  |
| 951  | CGGACATGTG | CGCGTTAGAC | CATATAAAGA | AAAACCAATA  | CAAAACCAAG  |
| 1001 | CGAAATCTGT | TGATGTGGAA | TATACTGTAC | AGTTTACTCC  | CTTAAACCCT  |
| 1051 | GATGACGATT | TCAGACCAGG | TCTCAAAGAT | ACTAAGCTAT  | TGAAAACACT  |
| 1101 | AGCTATCGGT | GACACCATCA | CATCTCAAGA | ATTACTAGCT  | CAAGCACAAA  |
| 1151 | GCATTTTAAA | CAAAAACCAC | CCAGGCTATA | CGATTTATGA  | ACGTGACTCC  |
| 1201 | TCAATCGTCA | CTCATGACAA | TGACATTTTC | CGTACGATTT  | TACCAATGGA  |
| 1251 | TCAAGAGTTT | ACTTACCGTG | TTAAAAATCG | GGAACAAGCT  | TATAGGATCA  |
| 1301 | ATAAAAAATC | TGGTCTGAAT | GAAGAAATAA | ACAACACTGA  | CCTGATCTCT  |
| 1351 | GAGAAATATT | ACGTCCTTAA | AAAAGGGGAA | AAGCCGTATG  | ATCCCTTTGA  |
| 1401 | TCGCAGTCAC | TTGAAACTGT | TCACCATCAA | ATACGTTGAT  | GTCCGATACCA |
| 1451 | ACGAATTGCT | AAAAAGTGAG | CAGCTCTTAA | CAGCTAGCGA  | ACGTAACTTA  |
| 1501 | GACTTCAGAG | ATTTATACGA | TCCTCGTGAT | AAGGCTAAAC  | TACTCTACAA  |
| 1551 | CAATCTCGAT | GCTTTTGGTA | TTATGGACTA | TACCTTAACT  | GGAAAAGTAG  |
| 1601 | AGGATAATCA | CGATGACACC | AACCGTATCA | TAACCGTTTA  | TATGGGCAAG  |
| 1651 | CGACCCGAAG | GAGAGAATGC | TAGCTATCAT | TTAGCCTATG  | ATAAAGATCG  |
| 1701 | TTATACCGAA | GAAGAACGAG | AAGTTTACAG | CTACCTGCGT  | TATACAGGGA  |
| 1751 | CACCTATACC | TGATAACCCT | AACGACAAAT | AA          |             |

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Fig. 22a



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Fig. 22b

|      | 10         | 20          | 30         | 40         | 50          |
|------|------------|-------------|------------|------------|-------------|
| 1    | CGAAGACCAT | TCATGTTGTT  | GCTCAGGTCG | CAGACGTTTT | GCAGCAGCAG  |
| 51   | TCGCTTCACG | TTCGCTCGCG  | TATCGGTGAT | TCATTCTGCT | AACCAGTAAG  |
| 101  | GCAACCCCGC | CAGCCTAGCC  | GGGTCCTCAA | CGACAGGAGC | ACGATCATGC  |
| 151  | GCACCCGTGG | CCAGGACCCA  | ACGCTGCCCC | AGATCTCGAT | CCCGCGAAAT  |
| 201  | TAATACGACT | CACTATAGGG  | AGACCACAAC | GGTTTCCCTC | TAGAAATAAT  |
| 251  | TTTGTTTAAC | TTTAAGAAGG  | AGATATACCA | TGGTGCAAGC | ACAACAGATT  |
| 301  | GTACCCATAG | CTGAGAAGTG  | TTTTGATCAT | GCTGCTGGGA | CTTCCTATGT  |
| 351  | GGTCGGAGAA | ACGTGGGAGA  | AGGCAGCGGA | CGCATCACTT | GCACTTCTAG  |
| 401  | AAATAGATGC | AACGATCAGG  | ACACAAGGAC | ATCCTATAGA | ATTGGAGACA  |
| 451  | CCTGGAGCAA | GAAGGATAAT  | CGAGGAAACC | TGCTCCAGTG | CATCTGCACA  |
| 501  | GGCAACGGCC | GAGGAGAGTG  | GAAGTGTGAG | AGGCACACCT | CTGTGCAGAC  |
| 551  | CACATCGAGC | GGATCTGGCC  | CCTTCACCGA | TGTTCTGATT | GCTGGACCTG  |
| 601  | AGTGGCTGCT | AGACCGTCCA  | TCTGTCAACA | ACAGCCAATT | GGTTGTTAGC  |
| 651  | GTTGCTGGTA | CTGTTGAGGG  | GACGAATCAA | GACATTAGTC | TTAAATTTTT  |
| 701  | TGAAATCGAT | CTAACATCAC  | GACCTGCTCA | TGGAGGAAAG | ACAGAGCAAG  |
| 751  | GCTTAAGTCC | AAAATCAAAA  | CCATTGCTA  | CTGATAGTGG | CGCGATGTCA  |
| 801  | CATAAACTTG | AGAAAGCTGA  | CTTACTAAAG | GCTATTCAAG | AACAATTGAT  |
| 851  | CGCTAACGTC | CACAGTAACG  | ACGACTACTT | TGAGGTCATT | GATTTTGCAA  |
| 901  | GCGATGCAAC | CATTACTGAT  | CGAAACGGCA | AGGTCTACTT | TGCTGACAAA  |
| 951  | GATGGTTCGG | TAACCTTGCC  | GACCCAACCT | GTCCAAGAAT | TTTTGCTAAG  |
| 1001 | CGGACATGTG | CGCGTTAGAC  | CATATAAAGA | AAAACCAATA | CAAAACCAAG  |
| 1051 | CGAAATCTGT | TGATGTGGAA  | TATACTGTAC | AGTTTACTCC | CTTAAACCCCT |
| 1101 | GATGACGATT | TCAGACCAGG  | TCTCAAAGAT | ACTAAGCTAT | TGAAAACAET  |
| 1151 | AGCTATCGGT | GACACCATCA  | CATCTCAAGA | ATTACTAGCT | CAAGCAGAAA  |
| 1201 | GCATTTTAAA | CAAAAACCAAC | CCAGGCTATA | CGATTTATGA | ACGTGACTCC  |
| 1251 | TCAATCGTCA | CTCATGACAA  | TGACATTTTC | CGTACGATTT | TACCAATGGA  |
| 1301 | TCAAGAGTTT | ACTTACCGTG  | TTAAAAATCG | GGAACAAGCT | TATAGGATCA  |
| 1351 | ATAAAAAATC | TGGTCTGAAT  | GAAGAAATAA | ACAACACTGA | CCTGATCTCT  |
| 1401 | GAGAAATATT | ACGTCCTTAA  | AAAAGGGGAA | AAGCCGTATG | ATCCCTTTGA  |
| 1451 | TCGCAGTCAC | TTGAAACTGT  | TCACCATCAA | ATACGTTGAT | GTCCGATACCA |
| 1501 | ACGAATTGCT | AAAAAGTGAG  | CAGCTCTTAA | CAGCTAGCGA | ACGTAACCTA  |
| 1551 | GACTTCAGAG | ATTTATACGA  | TCCTCGTGAT | AAGGCTAAAC | TACTCTACAA  |
| 1601 | CAATCTCGAT | GCTTTTGGA   | TTATGGACTA | TACCTTAACT | GGAAAAGTAG  |
| 1651 | AGGATAATCA | CGATGACACC  | AACCGTATCA | TAACCGTTTA | TATGGGCAAG  |
| 1701 | CGACCCGAAG | GAGAGAATGC  | TAGCTACCAT | TTAGCTGGTG | GTGGCCAGGC  |
| 1751 | GCAACAGATT | GTACCCATAG  | CTGAGAAGTG | TTTTGATCAT | GCTGCTGGGA  |
| 1801 | CTTCCTATGT | GGTCGGAGAA  | ACGTGGGAG  | AGCCCTACCA | AGGCTGGATG  |
| 1851 | ATGGTAGATT | GTA CTTGCTT | GGGAGAAGGC | AGCGGACGCA | TCACCTGCAC  |
| 1901 | TTCTAGAAAT | AGATGCAACG  | ATCAGGACAC | AAGGACATCC | TATAGAATTG  |
| 1951 | GAGACACCTG | GAGCAAGAAG  | GATAATCGAG | GAAACCTGCT | CCAGTGCATC  |
| 2001 | TGCACAGGCA | ACGGCCGAGG  | AGAGTGGAA  | TGTGAGAGGC | ACACCTCTGT  |
| 2051 | GCAGACCACA | TCGAGCGGAT  | CTGGCCCCCT | CACCGATGTT | CGTTAG      |

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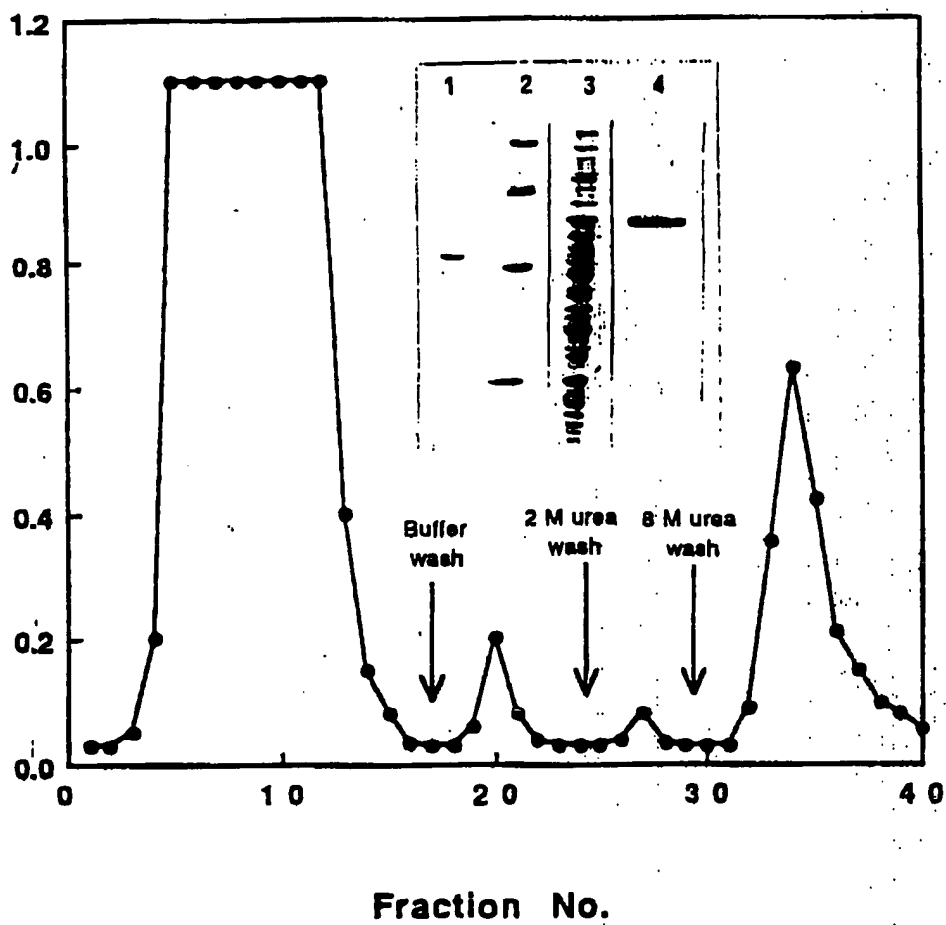
Fig. 23

Fig. 24